

BEFORE
THE PUBLIC SERVICE COMMISSION OF
SOUTH CAROLINA
DOCKET NO. 2021-3-E - ORDER NO. 2021-668
SEPTEMBER 30, 2021

IN RE:	Annual Review of Base Rates for Fuel Costs)	ORDER APPROVING
	of Duke Energy Carolinas, LLC (For)	AND ADOPTING
	Potential Increase or Decrease in Fuel)	ADJUSTMENT IN FUEL
	Adjustment and Gas Adjustment))	COST RECOVERY
)	FACTORS

I. INTRODUCTION

This matter comes before the Public Service Commission of South Carolina (“Commission”) on the annual review of base rates for fuel costs of Duke Energy Carolinas, LLC (“DEC” or the “Company”). The procedure followed by the Commission is set forth in S.C. Code Ann. § 58-27-865, which provides for annual hearings to allow the Commission and all interested parties to review the prudence of the fuel purchasing practices and policies of an electrical utility and for the Commission to determine if any adjustment in a utility’s fuel cost recovery mechanism is necessary and reasonable. Additionally, and pursuant to S.C. Code Ann. § 58-39-140, the Commission must determine in this proceeding whether an increase or decrease should be granted in the fuel cost component designed to recover the incremental or avoided costs incurred by the Company to implement the Distributed Energy Resources Program (“DERP”) previously approved by the Commission.

A. Notice and Intervention

By letter dated March 22, 2021, the Clerk’s Office of the Commission instructed

the Company to publish a Notice of Hearing and Prefile Testimony Deadlines (the “Notice”) in newspapers of general circulation and provide Proof of Publication on or before June 15, 2021. The letter also instructed the Company to furnish the Notice to each affected customer and provide a certification to the Commission on or before June 15, 2021, that notification had been furnished. In compliance with the Commission’s instructions, DEC published the Notice in newspapers of general circulation and on June 15, 2021, filed with the Commission affidavits demonstrating that the Notice was duly published. DEC also furnished a copy of the Notice to its retail customers by bill insert, or electronically for those customers who agreed to receive the Notice electronically. In accordance with the instructions set forth in the Clerk’s Office’s letters, on June 15, 2021, DEC filed with the Commission affidavits certifying that a copy of the Notice was furnished to the Company’s retail customers in South Carolina.

The South Carolina Office of Regulatory Staff (“ORS”) is considered a party of record in all proceedings before the Commission pursuant to S.C. Code Ann. § 58-4-10, and timely petitions to intervene were filed by South Carolina Energy Users Committee (“SCEUC”) and Southern Alliance for Clean Energy/South Carolina Coastal Conservation League (“SACE/CCL”). There was no opposition to any of the Petitions to Intervene and the Commission issued Orders granting each Petition to Intervene.¹

II. JURISDICTION OF THE COMMISSION

In accordance with S.C. Code Ann. § 58-27-140(1), the Commission may, upon petition, “...ascertain and fix just and reasonable standards, classifications, regulations,

¹ See Order No. 2021-84-H granting the Petition to Intervene filed on behalf of SCEUC; See Order No. 2021-86-H granting the Petition to Intervene filed on behalf of SACE/CCL.

practices or service to be furnished, imposed, observed, and followed by any or all electrical utilities.” Further, S.C. Code Ann. § 58-27-865(B) states, in pertinent part, that “[u]pon conducting public hearings in accordance with law, the commission shall direct each company to place in effect in its base rate an amount designed to recover, during the succeeding twelve months, the fuel costs determined by the commission to be appropriate for that period, adjusted for the over-recovery or under-recovery from the preceding twelve-month period.”

Consistent with the requirements of S.C. Code Ann. § 58-27-865(B), the Commission convened an evidentiary hearing to determine the reasonableness of the Company’s proposed rates to recover fuel costs and whether acceptance of those proposed rates is just, fair, and in the public interest.

III. DISCUSSION OF THE HEARING

The public evidentiary hearing in this matter was held virtually on September 13 and 14, 2021, before this Commission with the Honorable Justin T. Williams presiding as Chairman. Representing the parties and appearing before the Commission in this docket were Katie M. Brown, Esquire, and Samuel J. Wellborn, Esquire, for the Company; Scott Elliott, Esquire, for the South Carolina Energy Users Committee; Katherine Lee Mixson, Esquire, and Emma C. Clancy, Esquire, for SACE/CCL; and Andrew M. Bateman, Esquire, and Christopher M. Huber, Esquire, for ORS.

DEC, ORS and SACE/CCL presented witnesses regarding the Company’s base rates for fuel costs and their testimony is summarized below.

A. DEC TESTIMONY

The Company presented the direct testimony of Kenneth D. Church, Steven D.

Capps, Bryan P. Walsh, and Jason D. Martin, along with the direct and supplemental testimony of Brett Phipps, the direct, supplemental, and rebuttal testimony of Bryan L. Sykes, and the rebuttal testimony of John D. Swez. The pre-filed direct testimony of DEC witnesses Church, Capps, Walsh, and Martin, along with the pre-filed direct and supplemental testimony of DEC witness Phipps, the pre-filed direct, supplemental and rebuttal testimony of DEC witness Sykes, and the pre-filed rebuttal testimony of DEC witness Swez, were accepted into the record without objection. The Company witnesses' exhibits were marked as Hearing Exhibits 1 through 8 and were entered into the record of the case.²

Company witness Church testified regarding DEC's nuclear fuel purchasing practices, provided costs for the June 1, 2020 through May 31, 2021 review period, and described changes for the October 1, 2021 through September 30, 2022 billing period. The Company tendered Mr. Church as an expert in the field of nuclear fuel procurement, and he was qualified as an expert in his field without objection.

Company witness Capps discussed the performance of McGuire, Catawba, and Oconee Nuclear Stations for the period of June 1, 2020 through May 31, 2021.³ Witness

² Hearing Exhibit 1 consists of Direct Testimony Exhibit 1 of DEC witness Church. Hearing Exhibit 2 consists of the Direct Testimony Exhibits 1 and 2 of DEC witness Capps. Hearing Exhibit 3 consists of both the public version and confidential version of Exhibit 3 to the Direct Testimony of DEC witness Capps (with the confidential version of this exhibit being kept under seal). Hearing Exhibit 4 consists of the Direct Testimony Exhibits 1 and 2 of DEC witness Phipps. Hearing Exhibit 5 consists of the Direct Testimony Exhibit 1 of DEC witness Martin. Hearing Exhibit 6 consists of the Direct Testimony Exhibits 1 through 13 of DEC witness Sykes. Hearing Exhibit 7 consists of the Supplemental Direct Testimony Exhibits 1 through 7 and Exhibit 12 of DEC witness Sykes. Hearing Exhibit 8 consists of the Rebuttal Testimony Exhibit 12 of DEC witness Sykes.

³ Pursuant to the Company's request, Commission Order No. 2021-587 ordered that Exhibit 3 of DEC witness Capps' testimony be treated as confidential.

Capps reported to the Commission that DEC achieved a net nuclear capacity factor, including reasonable outage time, of 101.73%, which is above the 92.5% set forth in S.C. Code Ann. § 58-27-865. The Company tendered Mr. Capps as an expert in the field of nuclear plant operations, and he was qualified as an expert in his field without objection.

Company witness Phipps testified regarding DEC's fossil fuel purchasing practices and costs for the period June 1, 2020 through May 31, 2021, and described related changes forthcoming for the period October 1, 2021 through September 30, 2022. He also testified regarding the updates made to the projected coal and natural gas burns and costs for the billing period based on the updated July 2021 fuels forecast. The Company tendered Mr. Phipps as an expert in the field of coal, natural gas, and reagent procurement, and he was admitted as an expert in his field without objection. On cross-examination, Attorney Elliott asked Mr. Phipps about the Company's forecasting practices. Mr. Phipps testified that while he is involved with providing data on coal and natural gas pricing for the forecast, any decisions about forecasting and updating the timing of the forecast is outside of his role. In response to Chairman Williams' question about who the appropriate witness would be to ask about the timing of the forecast, Mr. Phipps testified it would be Company witness Sykes.

Company witness Walsh described DEC's fossil/hydro/solar generation portfolio and changes made since the prior year's filing, discussed the performance of DEC's fossil/hydro/solar facilities during the period of June 1, 2020 through May 31, 2021, provided information on significant outages that occurred during the review period, and discussed DEC's environmental compliance efforts. The Company tendered Mr. Walsh as an expert in the field of fossil, hydroelectric, and utility-scale solar operations, and he

was admitted as an expert in his field without objection.

Company witness Martin testified regarding the DERP costs that are incorporated into the proposed fuel factors sponsored by Witness Sykes, the nature of the costs as well as any changes made to the DERP portfolio since the 2020 fuel proceeding. Witness Martin also sponsored the Company's revisions to the 2021 Renewable Net Metering Rider RNM tariff sheet, filed as Martin Exhibit 1.

Company witness Sykes testified regarding: 1) the Company's proposed fuel factors by customer class to become effective October 1, 2021 for DEC's South Carolina customers; 2) DEC's actual expenditures for fuel, capacity-related costs, and environmental costs incurred while providing energy service to South Carolina customers for the review period of June 1, 2020 through May 31, 2021; 3) costs incurred related to DERP, for the review period; and 4) DEC's projected fuel costs, capacity-related costs, environmental costs, and DERP costs for the estimated period of June 1, 2021 through September 30, 2021, and the billing period of October 1, 2021 through September 30, 2022.

Company witness Sykes' supplemental direct testimony addressed changes made to his initial recommendations based on an updated July 2021 fuels forecast. In particular, Mr. Sykes testified that—due to unexpected material changes in fuel commodity prices—he determined that “a significant under-recovery of fuel costs would likely accrue if the rates are not updated as part of this fuel case.” (Tr. Vol 1, p. 107.3, ln. 1-3). Mr. Sykes further testified that, in light of the materiality of the changes to the forecast, he recommended that the rates be updated in this proceeding.

Company witness Sykes' rebuttal testimony responded to ORS witness Briseno's

testimony related to the estimated cumulative DERP avoided costs over-recovery balance through September 2021. Company witness Sykes agreed with ORS witness Briseno's recommendation. Company witness Sykes provided thirteen (13) exhibits to support his direct testimony, eight (8) amended exhibits to support his supplemental testimony, and one (1) updated exhibit to support his rebuttal testimony.

Company witness Sykes discussed the Company's approved DERP, associated costs, and the DERP NEM Incentive. Witness Sykes testified that the Company seeks approval for DERP incremental costs amounting to a per-account monthly charge of \$0.66, \$2.63, and \$100.00 for South Carolina residential, general, and industrial customers, excluding GRT, respectively. Company witness Sykes testified that the impact of the rates set forth in his direct testimony, which used the April fuels forecast, for an average residential customer using 1,000 kWh per month is an increase of \$1.81 or 1.55%. The impact of the rates set forth in witness Sykes' supplemental testimony, which used the July fuels forecast, for an average residential customer using 1,000 kWh per month is an increase of \$3.55 or 3.0%. Witness Sykes testified that the approximate increases anticipated in the average monthly bill of the remaining customer classes based on the April fuels forecast are as follows: 1.37% for General Service customers; 2.25% for Industrial customers; and 0.70% for Lighting customers. The approximate increases anticipated in the average monthly bill of the remaining customer classes based on the July fuels forecast are as follows: 3.4% for General Service customers; 5.5% for Industrial customers; and 1.7% for Lighting customers.

On cross-examination Mr. Sykes testified that the Company routinely performs a quarterly fuel forecast and has since approximately 2013. Mr. Sykes explained that fuel

costs fluctuate from forecast to forecast, but the significant increase from April to July due to increasing natural gas and commodity costs was not typical.

In rebuttal, Company witness Swez responded to the testimony of SACE/CCL witness Devi Glick related to DEC's unit commitment and dispatch of its coal generation stations. The Company tendered Mr. Swez as an expert in the field of generation commitment and dispatch, and he was admitted as an expert in his field without objection.

Company witness Swez further responded to witness Glick's testimony regarding the Company's unit commitment and dispatch of its coal generation stations and explained why the Commission should not accept Ms. Glick's proposal to disallow \$3.8 million in fuel costs. Witness Swez asserted that Ms. Glick's analysis contains improper assumptions and calculations that do not accurately reflect utility operations.

B. SACE/CCL TESTIMONY

Following the presentation of the Company's witnesses, SACE/CCL presented the direct and surrebuttal testimony of Devi Glick. The pre-filed direct testimony and surrebuttal testimony of SACE/CCL witness Glick was accepted into the record without objection by the parties, and her direct testimony exhibit was marked as Hearing Exhibit 9 and was entered into the record of the case.⁴ SACE/CCL tendered Ms. Glick as an expert in the fields of unit commitment practices, plant economics, and utility resource planning. She was qualified as an expert in all three fields. In her testimony, Ms. Glick generally alleged that the Company had committed its coal units out of economic merit and that the average cost of generation at its coal plants exceeded the Company's

⁴ Hearing Exhibit No. 9 consists of the Direct Testimony Exhibit DG-1 of SACE/CCL witness Glick.

marginal unit cost. Ms. Glick proposed a disallowance of \$3.8 million based on her review of the Company's commitment and dispatch of its coal units. Ms. Glick also recommended that the Company consider moving some of its coal units to "seasonal operation" and retiring some of its units.

Ms. Glick testified that there are reasons apart from economics for which a utility may commit and dispatch a unit, including for local reactive power support, local voltage control support, testing, and maintenance activities. (Tr. Vol. 1, pp. 166-167) An example of such activities for Cliffside Unit 5 was presented and entered into the record as Hearing Exhibit No. 10.⁵ Ms. Glick conceded that these activities were not accounted for in her review of the plant's commitment and dispatch over the review period, nor did they inform the disallowance amount she proposed. (Tr. Vol. 1, p. 167, ln. 12-18.) ("I did not actually take out the environmental compliance testing from the data source . . . I was not looking at individual days sort of saying, you know, this individual day or this individual week the unit should not have been on.").

Ms. Glick also conceded that—in order to effectuate her theory that the Company could simply turn off or de-commit its coal units—the associated capacity would have to somehow be replaced, without identifying what replacement resources the Company could call upon. (Tr. Vol. 1, p. 169, ln. 10-14.) Ms. Glick further clarified that the Company could build and install additional resources to accommodate system commitment and dispatch constraints. (Tr. Vol. 1, p. 170.) Ms. Glick also testified that she was provided with a 16-page manual the Company follows when committing and

⁵ Hearing Exhibit No. 10 consists of Glick Cross Exhibit 1 submitted by the Company.

dispatching units, and that she had provided no suggestions or proposals for modifying the manual that would improve the Company's decision-making or operations. (Tr. Vol.1, p. 171, ln. 22 - p. 172, ln. 5.)

Finally, it was pointed out in cross-examination that Ms. Glick's testimony suggests that the Company "could have at its disposal more nimble resources, such as gas resources, battery storage, and paired renewables" that may lower the Company's fuel costs. (Tr. Vol. 1, p. 154.8, ln.17-19.) On cross-examination, Ms. Glick affirmed that she intended to suggest that the Company should consider replacing its coal units by constructing or installing other resources (Tr. Vol. 1, p. 172, ln. 8-24) but noted that she had not been retained to review the Company's resource plan. (Tr. Vol. 1, p. 172, ln. 25 - p. 173, ln. 2.)

C. ORS TESTIMONY

Following the presentation of SACE/CCL's witness, ORS presented the direct testimony of Anthony D. Briseno, O'Neil O. Morgan, Brandon S. Bickley, and Anthony M. Sandonato. The pre-filed direct testimony of all ORS witnesses was accepted into the record without objection by the parties, and the ORS witnesses' exhibits were marked as composite Hearing Exhibits 11 through 14 and were entered into the record of the case.

ORS witness Briseno presented direct testimony and nine (9) exhibits, which demonstrated the results of ORS's examination of DEC's books and records pertaining to the Fuel Adjustment Clause operation for the actual period of June 1, 2020 through May 31, 2021.⁶ The estimated months of the review period, June 1, 2021 through September

⁶ Composite Hearing Exhibit No. 11 consists of the Direct Testimony Exhibits of Anthony D. Briseno (Exhibits ADB-1 through ADB-9)

30, 2021, were also reflected in witness Briseno's pre-filed testimony. In his pre-filed direct testimony, witness Briseno stated that based on ORS's examination, ORS agrees with the balances and adjustments put forth by the Company as of the end of the review period. ORS agrees with the following (over)/under- recovery balances as calculated by the Company:

- May 2021 base fuel costs over-recovery balance of \$1,958,880;
- May 2021 environmental costs over-recovery balance of \$1,690,482;
- May 2021 capacity costs under-recovery balance of \$3,819,894;
- May 2021 DERP incremental costs over-recovery balance of \$1,762,547;
- May 2021 DERP avoided costs over-recovery balance of \$249,500;
- September 2021 base fuel costs under-recovery balance of \$22,454,755;
- September 2021 environmental costs over-recovery balance of \$1,386,744;
- September 2021 capacity costs under-recovery balance of \$3,177,242; and
- September 2021 DERP incremental costs over-recovery of \$1,031,622.

Based on ORS's examination, ORS calculated the following Estimated Period adjusted balance for DEC:

- September 2021 DERP avoided costs over-recovery balance of \$178,909.

ORS witness Morgan presented direct testimony and one (1) exhibit. Witness Morgan testified regarding ORS's recommendation resulting from the examination of DEC's DERP expenses for the period of June 1, 2020 through May 31, 2021 ("Actual Period"), June 2021 through September 2021 ("Estimated Period"), and October 2021 through September 2022 ("Forecasted Period"). Specifically, witness Morgan testified regarding the Company's DERP avoided and incremental costs, the method by which the

Company proposed to recover those costs, and the value of the NEM incentive. Additionally, witness Morgan addressed the Company's modification to the Renewable Net Metering Rider.⁷ ORS found the Company's DERP avoided and incremental costs to be reasonably and prudently incurred in implementing the Company's DERP, and ORS found the Company's estimated and forecasted DERP avoided and incremental costs to be reasonable. ORS found the Company's calculation of the proposed monthly DERP charges per account and the under-collected incremental costs complied with Act 236 and the Commission's orders in previous DERP-related proceedings.

ORS witness Bickley presented direct testimony and six (6) exhibits.⁸ Witness Bickley testified regarding ORS's examination of DEC's power plant operations and nuclear, fossil and hydro generation performance, generation mix, and plant dispatch, used in the generation of electricity to meet the Company's retail customer requirements during the review period. Witness Bickley testified that based on ORS's review of the Company's operation of its generation facilities during the review period, ORS determined that the Company made reasonable efforts to maximize unit availability and every reasonable effort to minimize fuel costs.

ORS witness Sandonato presented revised direct testimony and five (5) exhibits.⁹ Witness Sandonato testified regarding the Company's fuel expenses used in the generation of electricity to meet the Company's South Carolina retail customer requirements during the review period. Witness Sandonato's review focused on

⁷ Hearing Exhibit No. 12 consists of the Direct Testimony Exhibit of O'Neil O. Morgan (Exhibit OOM-1).

⁸ Composite Hearing Exhibit No. 13 consists of the Direct Testimony Exhibits of Brandon S. Bickley (Exhibits BSB-1 through BSB-6).

⁹ Composite Hearing Exhibit No. 14 consists of the Direct Testimony Exhibits of Anthony M. Sandonato (Exhibits AMS-1 through AMS-5).

evaluating the Company's fuel procurement and forecasting policies, procedures, and activities to ensure the Company made every reasonable effort to minimize fuel costs so as to provide reliable and high-quality service to its customers. ORS did not recommend any adjustments to the Company's proposed fuel factors based on the Company's historical and updated forecasted fuel expenses and customer sales. ORS witness Sandonato also recommended that the Company provide forecasts during the 4th quarter of the calendar year prior to the next annual fuel proceeding and in the 2nd quarter of the calendar year of the Company's next annual fuel proceeding.

IV. FINDINGS OF FACT AND CONCLUSIONS OF LAW

Having heard the testimony of the witnesses and representations of counsel and after careful review of all evidence in the record, the Commission finds that DEC's fuel purchasing practices and policies, plant operations, and fuel inventory management during the Review Period are just, reasonable, and prudent, and supported by the evidence in the record.

Therefore, the Commission concludes that DEC's fuel purchasing practices and policies, plant operations, and fuel inventory management during the Review Period are consistent with the statutory requirements of S.C. Code Ann. § 58-27-865.

The Commission finds that the methodology for determining the environmental cost component of the fuel factor and the methodology for allocation and recovery of the capacity-related cost component of the fuel factor (which includes purchased power capacity costs under the Public Utility Regulatory Policies Act of 1978 ("PURPA") and natural gas transportation storage costs) used by DEC in this proceeding are just, reasonable, and prudent.

Therefore, the Commission concludes that the methodology for determining the environmental cost component of the fuel factor and the methodology for allocation and recovery of the capacity-related cost component of the fuel factor used by DEC in this proceeding are consistent with the statutory requirements of S.C. Code Ann. § 58-27-865.

A. RECOMMENDATIONS OF SACE/CCL

Subsequent to the hearing, DEC and SACE/CCL filed a joint letter stating an agreement they reached regarding the recommendations of SACE/CCL:

Specifically, DEC and SACE/CCL have agreed to the following:

- SACE/CCL withdraw their \$3.8 million disallowance recommendation in this docket.
- DEC will provide the following information in its native format in future South Carolina annual fuel proceedings upon the submission of a data request from SACE/CCL:
 - o Excel spreadsheets showing the unit cost data that the Company sees at the time it makes its unit commitment decisions (projected unit costs). These spreadsheets include all Duke-operated resources available to serve load.
 - o Documents containing the Company's Seven Day Forecast reports that show how the Company planned to operate each unit (output for each unit).
 - o Total load projected to be served in each hour, expressed in MWs, and the required MWs of operating reserves required in each hour.¹⁰

As a result of the voluntary withdrawal by SACE/CCL of the recommendation for a \$3.8 million disallowance in this docket due to the above-captioned agreement, the Commission does not need to make a finding or ruling regarding this recommendation.

B. RECOMMENDATION OF SCEUC

SCEUC, through cross examination of DEC witnesses Phipps and Sykes,

¹⁰ DEC and SACE/CCL Joint Letter filed September 23, 2021.

demonstrated the difficulties of intervening parties with regard to later-filed, supplemental testimony which adjusts – significantly, in this instance – projected fuel forecasts. By letter filed September 24, 2021, SCEUC articulated its plea for relief on this matter:

SCEUC would request that the Commission order Duke to base its prefiled testimony in future fuel dockets on a fuel forecast prepared within thirty days of the prefiling deadline for testimony. In so doing, the Commission would act to ensure transparency and build public confidence in the proceedings before it.¹¹

Upon consideration of the evidence of record and the position taken by SCEUC on the matter of timely forecasts, the Commission finds that DEC should base its testimony in future fuel dockets on a fuel forecast prepared within thirty days of the prefiling deadline for testimony as recommended by the South Carolina Energy Users Committee. If DEC cannot base its forecasts on such information, then DEC must then advise and explain to the Commission why, as part of its testimony, and the best available forecasting data then should be used.

The Commission, therefore, concludes that it is consistent with the purpose of future fuel cost recovery proceedings pursuant to S.C. Code Ann. § 58-27-865 to require DEC to base its testimony in future fuel dockets on a fuel forecast prepared within thirty days of the prefiling deadline for testimony.

IT IS THEREFORE ORDERED THAT:

1. The fuel purchasing practices, plant operations, and fuel inventory management of DEC related to the historical fuel costs and revenues for the period

¹¹ SCEUC Letter filed September 24, 2021.

ending May 31, 2021, are prudent. However, with regard to plant outages that are not complete as of the end of the Review Period, and plant outages where final reports or investigations (Company, contractor, government reports or otherwise) were not available at the time of the hearing on this matter, the reasonableness of such outages shall be subject to review in the period where such report(s) become available.

2. The methodologies used by the Company to calculate its avoided energy and capacity costs under PURPA for the review and billing periods are reasonable and prudent.

3. The methodologies used by the Company for determining the environmental cost component and the capacity-related cost component of the fuel factor are reasonable and prudent for the review period and the billing period.

4. The Company's revisions to the 2021 Renewable Net Metering Rider RNM tariff sheet, attached hereto as Order Exhibit 1, are lawful, just and reasonable, and shall become effective for service rendered from October 1, 2021 through September 30, 2022.

5. The Company's calculation and method of accounting for the avoided and incremental costs for NEM during the Review Period were reasonable and prudent, and were consistent with the methodology approved in Commission Order No. 2015-194, and complied with S.C. Code Ann. § 58-40-10, *et seq.*

6. The 2021 component values for NEM Distributed Energy Resource comply with the NEM methodology approved by the Commission in Order No. 2015-194 and satisfy the requirements of S.C. Code Ann. § 58-48-10, *et seq.*

7. DEC shall set its base fuel factor (not including the applicable

environmental cost component, capacity-related cost component, and DERP avoided cost component) at 1.8123 cents per kWh for the Residential class, 1.8123 cents per kWh for the General Service/Lighting class, and 1.8123 cents per kWh for the Industrial class for service rendered October 1, 2021 through September 30, 2022.¹²

8. DEC shall set its environmental cost component billing factor at 0.0180 cents per kWh for the Residential class, 0.0136 cents per kWh for the General Service/Lighting class, and 0.0085 cents per kWh for the Industrial class, for service rendered October 1, 2021 through September 30, 2022.

9. DEC shall set its capacity-related cost component at 0.1264 cents per kWh for the Residential class, 0.0967 cents per kWh for the General Service/Lighting class, and 0.0653 cents per kWh for the Industrial class for service rendered October 1, 2021 through September 30, 2022.

10. DEC shall set its DERP avoided cost component at 0.0040 cents per kWh for the Residential class, 0.0029 cents per kWh for the General Service/Lighting class, and 0.0020 cents per kWh for the Industrial class for service rendered October 1, 2021 through September 30, 2022.

11. DEC shall set its DERP Charge at \$0.66 per month for the Residential class, \$2.64 per month for the Commercial class, and \$100.00 per month for the Industrial class, including gross receipts tax.

12. DEC shall file the South Carolina Retail Adjustment for Fuel, Capacity-

¹² The base fuel factors, environmental component billing factor, avoided capacity component, and DERP charge include gross receipt tax and regulatory fees.

Related, Variable Environmental, and DERP Avoided Capacity Costs Rider; Renewable Net Metering Rider RNM-12; and all other retail tariffs with the Commission and a copy with ORS within ten (10) days of receipt of this Order. The revised tariffs should be electronically filed in a text searchable PDF format using the Commission's DMS System (<https://dms.psc.sc.gov/>). An additional copy of any revised tariffs should be submitted via the E-Tariff system and a copy of any new tariffs should be sent via e-mail to etariff@psc.sc.gov to be included in the Commission's E-Tariff system (<https://etariff.psc.sc.gov/>). DEC shall provide a reconciliation of each tariff rate change approved as a result of this Order to each tariff rate revision filed in the E-Tariff system. Such reconciliation shall include an explanation of any differences and be submitted separately from the Company's E-Tariff filing. Each tariff sheet shall contain a reference to this Order and its effective date at the bottom of each page.

13. DEC shall comply with the notice requirements set forth in S.C. Code Ann. § 58-27-865.

14. DEC shall continue to file the monthly reports as previously required.

15. DEC shall continue to examine and make adjustments as necessary to its natural gas hedging program in light of the on-going volatility in the domestic natural gas market. DEC shall also provide monthly natural gas hedging reports to ORS.

16. DEC shall, by rate class, account monthly to the Commission and ORS for the differences between the recovery of fuel costs through base rates and the actual fuel costs experienced by booking the difference to unbilled revenues with a corresponding deferred debit or credit.

17. DEC shall submit monthly reports to the Commission and ORS of fuel

costs and scheduled and unscheduled outages of generating units with a capacity of 100 megawatts or greater.

18. The Company shall provide a forecast to all interested parties of the expected fuel factor to be set at its next annual fuel proceeding based upon its historical (over)/under recovery to date and forecasts of prices for uranium, natural gas, coal, oil, and other fuel required for the generation of electricity. Additionally, the forecast will provide the expected DERP Charge to be set at the Company's next annual fuel proceeding based upon the Company's historical (over)/under-recovery to date and the Company's forecast of DERP incremental and avoided costs. These forecasts shall be provided during the 4th quarter of the calendar year prior to the next annual fuel proceeding and in the 2nd quarter of the calendar year of the Company's next annual fuel proceeding. The Company shall continue to actively monitor commodity and transportation costs outside of the quarterly filings.

19. Duke Energy Carolinas, LLC shall base its testimony in future fuel dockets on a fuel forecast prepared within thirty days of the prefiling deadline for testimony as recommended by the South Carolina Energy Users Committee. If DEC cannot base its forecasts on such information, then DEC must advise and explain to the Commission why as part of its testimony and the best available forecasting data then should be used.

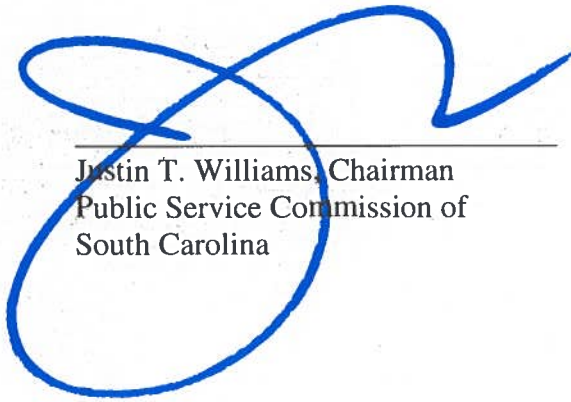
20. Within thirty (30) days of the issuance of this Order, DEC shall recalculate the DER incentive and other components which may have changed as a result of Order No. 2021-569, issued in the generic docket regarding NEM (Docket No. 2019-182-E), file its calculations with the Commission and provide its recalculations to the parties in this

docket. Any difference between the DER incentive and other components approved by the Commission in Docket No. 2021-3-E and the recalculated DER incentive and other components reflective of Order No. 2021-569 are to be reflected in the base fuel and DERP incremental (over)/under collection as of August 19, 2021 (the date Order No. 2021-569 was issued), as applicable, and included in DEC's 2022 fuel filing.

21. Any relief or requests not expressly granted herein are denied.

22. This Order shall remain in full force and effect until further Order of the Commission.

BY ORDER OF THE COMMISSION:



Justin T. Williams, Chairman
Public Service Commission of
South Carolina

Duke Energy Carolinas, LLC

Electricity No. 4 _____

South Carolina ~~Eleventh~~ Twelfth Revised Leaf No. 119Superseding South Carolina ~~Tenth~~ Eleventh Revised Leaf No. 119

**RIDER RNM (SC)
RENEWABLE NET METERING**

AVAILABILITY

This Rider is closed to new participants on and after June 1, 2021. Customers requesting net energy metered (NEM) service on and after June 1, 2021 will receive service in accordance with the NEM tariff(s) in effect at that time.

Participants and subsequent owners of the customer-generator facility (collectively, "Participants") who applied for service under this Rider prior to May 16, 2019 shall remain eligible for standard service under this Rider until December 31, 2025. Participants who applied for service under this Rider on and after May 16, 2019 and prior to June 1, 2021 shall remain eligible for standard service under this Rider until May 31, 2029. Participants will be given the option to transfer to Schedule R-STOU (Residential Service, Solar Time-of-Use) and Rider RSC (Residential Solar Choice) beginning January 1, 2022. If Participants elect not to transfer to Schedule R-STOU and Rider RSC by the applicable sunset date of December 31, 2025 or May 31, 2029, they may continue to receive service under this Rider and their applicable rate schedule subject to the following provisions:

1. Any volumetric price increase after their applicable sunset date will be placed in a non-bypassable charge based on the estimated total solar energy production of their system size.
2. Participants will be assessed a monthly minimum bill set at \$10 more than the Basic Facilities Charge at that time.
3. Monthly Excess Energy will be credited at the avoided cost rate in effect at that time, rather than carry forward to the next billing month.

Available to residential and nonresidential Customers receiving concurrent service from the Company, on a metered rate schedule, except as indicated under General Provisions. A customer-generator is an owner, operator, or lessee of an electric generation unit that generates or discharges electricity from a renewable energy resource, including an energy storage device configured to receive electrical charge solely from an onsite renewable energy resource. The renewable NEM generation, which includes a solar photovoltaic; solar thermal; wind powered; hydroelectric; geothermal; tidal or wave energy; recycling resource; hydrogen fueled or combined heat and power derived from renewable resources; or biomass fueled generation source of energy, is installed on the Customer's side of the delivery point, for the Customer's own use, interconnected with and operated in parallel with the Company's system. The generation must be located at a single premise owned, operated, leased or otherwise controlled by the Customer. The system may either be owned by the Customer or by a lessor and leased to the Customer.

GENERAL PROVISIONS

1. To qualify for service under this Rider, the Customer must comply with all applicable interconnection standards and must provide, in writing, the Nameplate Capacity of the Customer's installed renewable generation system. Any subsequent change to the Nameplate Capacity must be provided by the Customer to the Company in writing by no later than 60 days following the change.
2. To qualify for service under this Rider, a residential Customer may be served on an approved residential rate schedule, but may not be served under Rider NM. The Nameplate Capacity of Customer's installed generation system and equipment must not exceed 20 kW AC.
3. To qualify for service under this Rider, a nonresidential Customer may be served on an approved general service or industrial rate schedule, but may not be served on Schedules TS, BC, HP, PG, MP or Rider NM. The Nameplate Capacity of Customer's installed renewable generation system and equipment must not exceed the lesser of 1,000 kW AC or 100% of the Customer's contract demand which shall approximate the Customer's maximum expected demand.
4. If the Customer is not the owner of the premises receiving electric service from the Company, the Company shall have the right to require that the owner of the premises give satisfactory written approval of the Customer's request for service under this Rider.
5. All environmental attributes, including but not limited to "renewable energy certificates" (RECs), "renewable energy credits" or "green tags", associated with the generation system shall be conveyed to the Company until billing of a Distributed Energy Resource Program Rider DERP Charge is discontinued on all customer bills. The Customer certifies that the environmental attributes have not, and will not, be remarketed or otherwise resold

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Duke Energy Carolinas, LLC

Electricity No. 4

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- for any purpose, including another distributed energy resource standard or voluntary purchase of renewable energy certificates in South Carolina or in any other state or country for the Contract Period and any successive contract periods thereto.
6. If the electricity supplied to the Customer by the Company exceeds the electricity delivered to the grid by the customer-generator during a monthly billing period, the customer-generator shall be billed for the net electricity in kilowatt hours (kWh) supplied by the Company plus any demand or other charges under the applicable rate schedule or riders. If the electricity delivered to the grid by the customer-generator exceeds the electricity in kWh supplied by the utility during a monthly billing period, the Customer-Generator shall be credited for the excess kWh generated during that billing period.
 7. Electricity delivered to the grid by the Customer's renewable generation that exceeds the electricity delivered by the Company is defined as Excess Energy. When used in conjunction with a time of use schedule, the TOU periods shall be specified in the applicable schedule and any Excess Energy shall apply first with the Excess Energy generated On-Peak kWh offsetting On-peak usage and then offsetting Off-peak usage. Any excess Off-Peak kWh shall only apply against Off-peak kWh usage. Any Excess Energy not used in the current month to offset usage shall carry forward to the next billing month, except for Participants served under this Rider beyond the applicable sunset date of December 31, 2025 or May 31, 2029, for which Excess Energy will be credited at the end of each billing month.
 8. Excess Energy shall be used to reduce electricity delivered and billed by the Company during the current or a future month, except that for the March billing period any carry-over shall be compensated as described in the RATE paragraph below.
 9. In the event the Company determines that it is necessary to increase the capacity of facilities beyond those required to serve the Customer's electrical requirement or to install a dedicated transformer or other equipment to protect the safety and adequacy of electric service provided to other customers, the Customer shall pay the estimated cost of the required transformer or other equipment above the estimated cost which Company would otherwise have normally incurred to serve the Customer's electrical requirement, in advance of receiving service under this Rider.
 10. The rates set forth herein are subject to Commission Order No. 2015-194, issued in Docket No. 2014-246-E pursuant to the terms of S.C. Code § 58-40-20(F)(4). Eligibility for this rate will terminate as set forth in that Order, and otherwise as specified above. The value of NEM generation eligible for this Rider shall be computed using the methodology contained in Commission Order No. 2015-194, in Docket No. 2014-246-E, and shall be updated annually by the Company. The value of NEM generation for 2021 is ~~\$0.02891~~ \$0.02868 per kWh for Schedules RS, RE, ES, RB and RT; ~~\$0.02895~~ \$0.02871 per kWh for Schedule SGS; and ~~\$0.02937~~ \$0.02871 per kWh for all other schedules.

RATE

All provisions of the applicable schedule and other applicable riders will apply to service supplied under this Rider, except as modified herein. For any bill month during which the Energy Charges are a net credit, the respective Energy Charges for the month shall be zero. Credits shall not offset the Basic Facilities Charge or the Demand Charge (if applicable). In addition to all charges in the applicable rate schedule for the Customer's net electrical usage, the following credit may be applicable annually:

Credit for Excess Energy

If the Customer has Excess Energy after offsetting usage as of the date of the March billing, the Company shall pay the Customer for the amount of the accumulated Excess Energy times a rate of \$0.0270 per kWh, after which the amount of Excess Energy shall be set to zero.

Participants served under this Rider beyond the applicable sunset date of December 31, 2025 or May 31, 2029 will receive credit for Excess Energy for each billing month. These Participants will also be assessed a monthly non-bypassable charge based on their Nameplate Capacity for any volumetric price increase thereafter.

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MINIMUM BILL

The monthly minimum bill for customers receiving service under this Rider shall be no less than Basic Facilities Charge from the applicable rate schedule and riders plus, if applicable, any of the following Charges: the Demand Charge, the Economy Demand Charge, Excess Demand Charge and the Extra Facilities Charge.

Participants served under this Rider beyond the applicable sunset date of December 31, 2025 or May 31, 2029 will be assessed a monthly minimum bill set at \$10 more than the Basic Facilities Charge at that time. The minimum bill will be satisfied by the Basic Facilities Charge, the portion of the Customer's monthly volumetric energy charges specific to customer and distribution costs, and riders.

Bill credits for net excess energy are not included in the calculation of the minimum bill charge. Bill credits will reduce a Customer's total bill after the minimum bill charge has been applied.

METERING REQUIREMENTS

The Company will furnish, install, own and maintain a billing meter to measure the kWh delivered by the Company to the Customer, and to measure the net kWh purchased by the Customer or delivered to the Company. For renewable generation capacity of 20 kW AC or less, the billing meter will be a single, bi-directional meter which records independently the net flow of electricity in each direction through the meter, unless the Customer's overall electrical requirement merits a different meter. For larger renewable generation capacities, the Company may elect to require two meters with 30-minute interval capabilities to separately record the Customer's electrical consumption and the total generator output, which will be electronically netted for billing. The Customer grants the Company the right to install, operate, and monitor special equipment to measure the Customer's generating system output, or any part thereof, and to obtain any other data necessary to determine the operating characteristics and effects of the installation. All metering shall be at a location that is readily accessible by the Company.

SAFETY, INTERCONNECTION AND INSPECTION REQUIREMENTS

This Rider is only applicable for installed renewable generation systems and equipment that complies with and meets all safety, performance, interconnection, and reliability standards established by the Commission, the National Electric Code, the National Electrical Safety Code, the Institute of Electrical and electronic Engineers, Underwriter's Laboratories, the Federal Energy Regulatory Commission and any local governing authorities. The Customer must comply with all liability insurance requirements of the Interconnection Standard.

POWER FACTOR

The Customer's renewable generation must be operated to maintain a 100% power factor, unless otherwise specified by Company. When the average monthly power factor of the power supplied by the Customer to the Company is other than 100%, the Company may correct the energy in kWh, as appropriate. The Company reserves the right to install facilities necessary for the measurement of power factor. The Company will not install such equipment, nor make a power factor correction if the renewable generation system is less than 20 kW and uses an inverter.

CONTRACT PERIOD

The Customer shall enter into a contract for service under this Rider for a minimum original term of one (1) year, and the contract shall automatically renew thereafter, except that either party may terminate the contract after one year by giving at least sixty (60) days prior notice of such termination in writing.

The Company reserves the right to terminate the Customer's contract under this Rider at any time upon written notice to the Customer in the event that the Customer violates any of the terms or conditions of this Rider, or operates the renewable generation system and equipment in a manner which is detrimental to the Company or any of its customers. In the event of early termination of a contract under this Rider, the Customer will be required to pay the Company for the costs due to such early termination, in accordance with the Company's South Carolina Service Regulations.

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